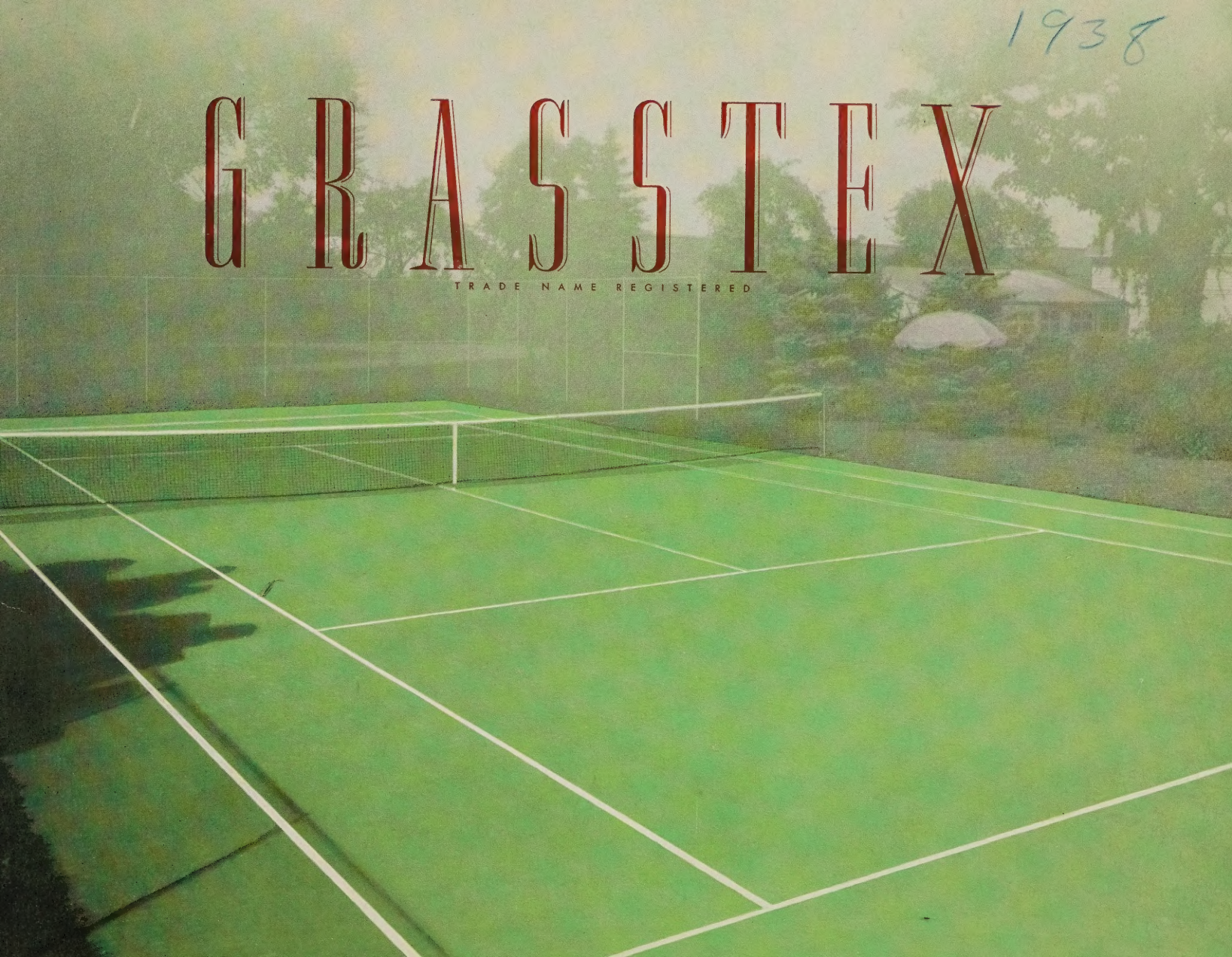


1938

GRASSTEX

TRADE NAME REGISTERED



K. M. BYRAM & SON.

9 WELLESLEY ROAD

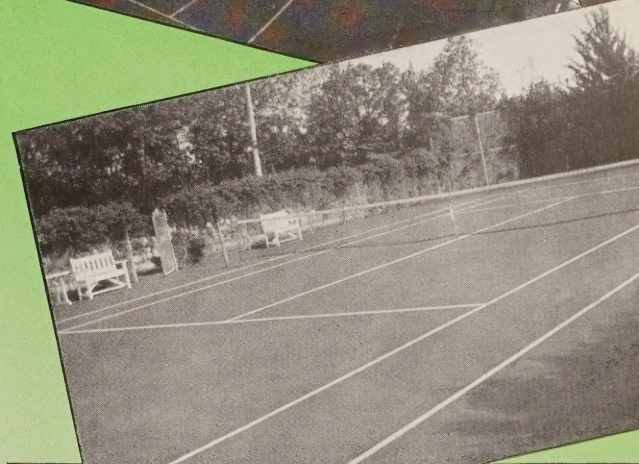
MONTCLAIR, N. J.

Grasstex

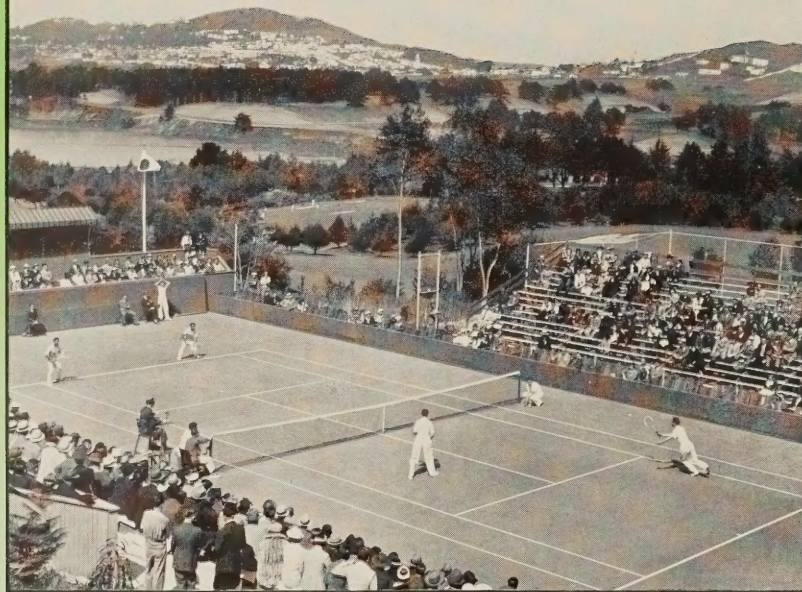
TENNIS COURTS

GRASSTEX—a new type of resilient surfacing material—is offered by the American Bitumuls Company for the surfacing of tennis courts, badminton and volleyball courts, and other play areas. Grasstex is an excellent surfacing for aisles and corridors in schools, hospitals, theatres, exhibit buildings, public markets, as well as for outdoor promenades and all areas subjected to foot traffic.

Grasstex is a fibrous composition product which was developed for resilience. On tennis courts, Grasstex induces a type of game which compares favorably with the game on turf, and such courts have practical advantages not afforded by turf or any other type. Grasstex may be used for resurfacing old courts which have sound base, as well as for new installations.



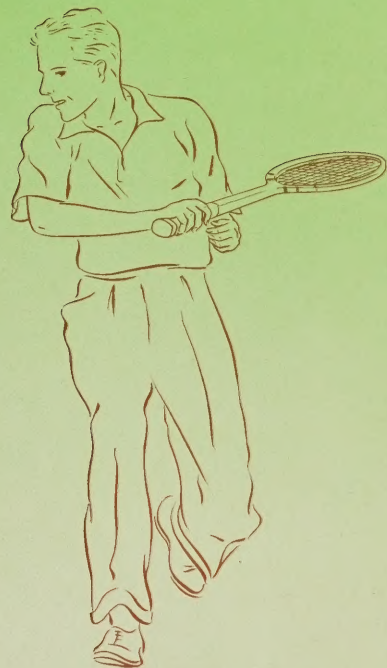
Lakeside Country Club, San Francisco.
Japanese and American Teams—
Davis Cup Ties—1937.

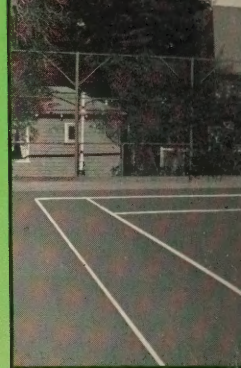
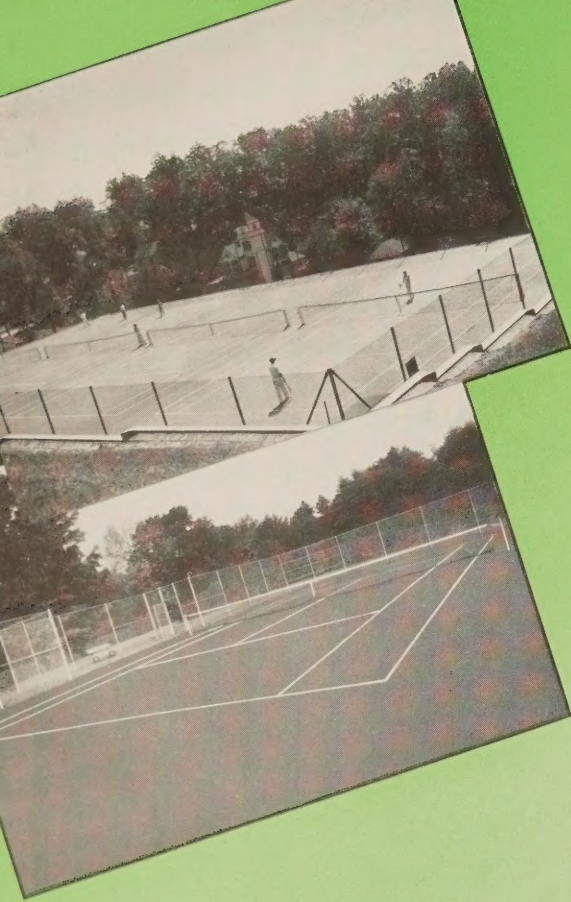


Court Surfaces

THE game "Lawn Tennis" was first played many years ago on the luxuriant turf of English country estates. In the days when tennis playing was limited to well-to-do circles of society, grass courts were the only type used. The tennis clubs established in those days had to be strong enough financially to install and maintain natural turf for their playing areas. Grass is preferred today by most of our experienced players, who agree that when at the peak of condition, it has no equal for skillful and enjoyable tennis play.

But there is a less pleasing side to the grass court situation. Luxuriant growth of grass suitable for tennis courts is impossible in large areas of the United States, because of climatic conditions. Even in those sections where it grows readily, turf has the least durability, and requires the greatest outlay for maintenance of any of the surfaces used for modern tennis. Hard play wears down





the growth and makes the surface uneven. The court area has to be rested to await new growth and trimming. The courts are unplayable after rains and are slow to dry. Footing on damp grass is insecure, and the balls become heavy with moisture. In the most favorable climates and with the best of care, satisfactory playing condition for only fifty percent of the time is the most that can be expected from grass courts. No court is less satisfactory for play than turf in poor condition.

New installations of grass courts have become rare, and the older installations are giving way to courts which offer consistent and uniform condition of surface, playable throughout the year, and with lower upkeep cost.

Tennis is played by the masses — hundreds of thousands of young people who cannot afford the luxury of turf. The great majority of modern tennis court surfaces are materials other than grass. Surfaces of clay, sand-clay, grits, burnt clay, and reinforced concrete



and asphalt street paving types, have been pressed into use to meet the universal demand for more courts. Certain asphalt compositions are carefully designed for tennis court surfaces. Various aggregates and methods of construction are promoted for "quick-drying" features. Each type of surface has features which do not please all players, nor satisfy all owners.

Surfaces of clay and sand-clay present an every-day maintenance problem. Absorbent in nature and readily softened by water, they are slow to dry after rains. In dry weather, they must be dampened to control dust. They require constant outlay for dragging, rolling, and replacement of lines to keep them in shape for play. New surfacing material must be added frequently.

Surfaces of the street pavement types, such as concrete and hot asphalt mixtures, offer good durability and low maintenance cost, but the hard rigid surfaces and the overly fast game are distinctly unpleasing to the majority of players.



Grasstex Courts are popular at
Hawaii Polo and Racing Club,
Honolulu, T. H.



"Quick-drying" is a desirable feature for tennis courts, for it shortens the idle periods caused by rains. Courts composed of loose unbonded particles of burned clay, so graded as to permit the infiltration and sub-drainage of water, are popularly termed "quick-drying." Such courts depend upon retention of some moisture to hold the particles in relative position. The ideal grading of materials essential for satisfactory results is seldom attained. Too open grading of particles permits too rapid drying, and watering is required several times daily. Too dense grading of particles causes retention of excess moisture, which interferes with play, and in cold weather renders the court susceptible to frost damage. The practical result of the "drain-some-retain-some" idea of construction is usually one extreme or the other. All such courts require daily watering, dragging, rolling, and replacement of lines in dry weather. During the winter in cold climates, such courts must be covered to protect them from moisture and the damaging effects of freezing.



Development of Grasstex

PLAYERS prefer courts which have resilience under foot, and turf-like playing qualities. Private owners, clubs and schools desire surfaces which require a minimum of maintenance outlay and which are playable for the maximum length of season. This situation has encouraged the American Bitumuls Company to develop the "Grasstex" surface. In resilience and playing qualities, Grasstex is the best substitute for natural turf which has yet been devised. In length of playing season, durability and low maintenance, it rivals the street pavement types of surfaces.

Grasstex is a composition of resilient fibres, bonded with emulsified asphalt binder made for the purpose. It is supplied in drums ready for use, and is spread in a uniform course on a firm under surface laid to exact grade. The Grasstex mat bonds securely to the base and is not disrupted by hard play nor by freezing. The resilient fibre body of the Grasstex mat gives perceptibly under foot pressure, but returns to place when the weight is removed. The surfacing does not pack down with usage.

Grasstex courts are rapid drying because the surface is an impervious material which is unaffected by water, constructed to true plane on a slope sufficient to drain, but so slight as to not affect play nor to be noticeable. The waterproof surfacing protects the subcourses and the foundation, and evaporation quickly dries the surface.

Sand and stone screenings are not used in Grasstex, therefore, there is no grit to adhere to the felt covering of balls and abrade the strings of tennis rackets. The material of the surface is no harder than the rubber soles of tennis shoes. Wear on balls, rackets and shoes is a minimum. Grasstex is tough, and does not tear or displace under foot.

The resilience of Grasstex Courts is unequalled except by well-kept natural turf. This results in a style of play which resembles the turf game more nearly than play on any other surface. Like well-kept turf, Grasstex lends itself to a great variety and perfection of





stroking. It is remarkably easy on playing equipment. Unlike turf, however, Grasstex endures successfully in any climate and under hard play. It is quick-drying and never slippery. It does not wear off nor bunch up to make bad ball bounds. It can be built for a fraction of the cost of turf.

In addition to its resilient, non-abrasive, rapid drying, true plane surface, Grasstex courts are attractive in appearance, free from glare, and are playable in all seasons. The marker lines are painted permanently on the surface at the time of construction. Grasstex combines the desirable playing characteristics of well kept turf with the durability and the low upkeep cost of the best asphalt composition surface (Laykold).

Grasstex is more satisfactory for play than natural turf, with its days and weeks of poor condition, its high maintenance cost, and its limited playing season; it furnishes a more pleasing game than any rigid surface; it is a more practical choice than types which

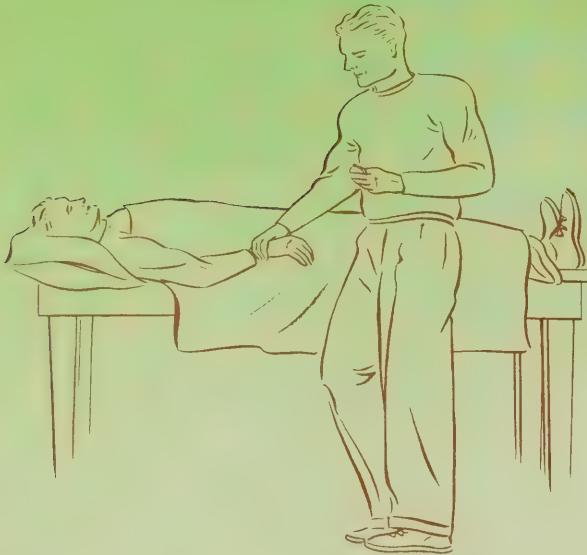
have permeable under structure, and which depend upon retained moisture to hold the surface particles in smooth, playable condition. Grasstex affords durability with practically no maintenance, in a surface ready for play every day in the year, weather permitting.

Grasstex courts are recommended for private owners, tennis clubs, and public installations where a tennis court which gives the maximum of player satisfaction is desired, in a surface of reasonable first cost, and proven durability.

Grasstex tennis courts have been installed in widely separated parts of the United States since 1934 and tested by hard use. Grasstex was not offered as a tennis court surface until its durability was assured in both hot and cold climates. No maintenance has yet been required on any installation, except for renewal of Grasstex Wear Coat dressing when required on areas which receive the hardest play.



Tests on Grasstex



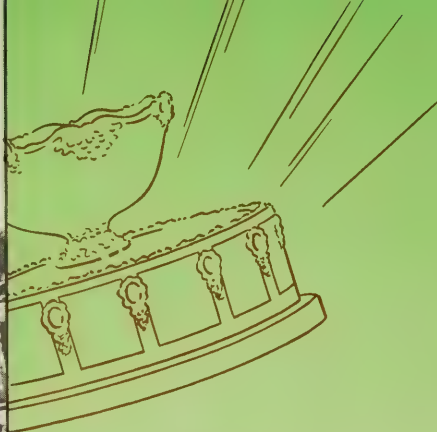
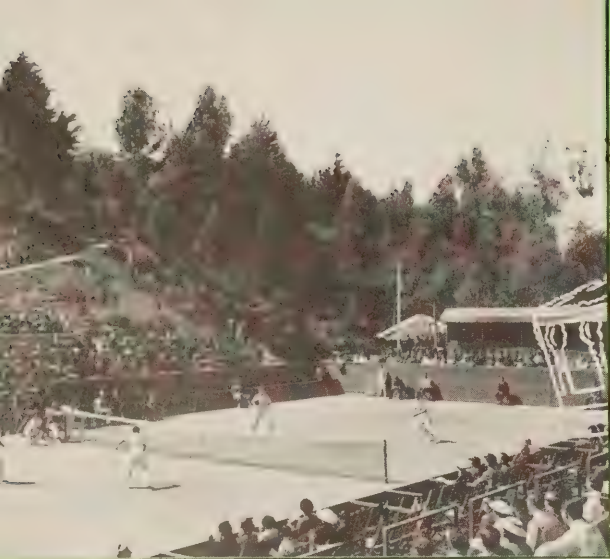
IN 1934, a series of tests were scientifically conducted to measure fatigue of players, and wear of tennis balls on Grasstex surfaces, as compared to popular types of hard surface courts. The tests were made by a nationally known physical education authority at Stanford University, Palo Alto, California. Evenly matched students were employed in the tests, which were conducted twice each week over a period of several months.

To measure fatigue, procedure was as follows: The pulse of each player was brought to his normal by a preliminary rest period; play then started and was continued for one hour and forty minutes; the time required for the pulse to return to normal was then observed. Tests were rotated among the different surfaces and



were repeated several times on each type. The average time for pulse recovery for all players for the duration of the tests was — Grasstex surface, 30 minutes; Surface B, 48 minutes; Surface C, 44 minutes. The tests were conclusive that the Grasstex surface was least fatiguing.

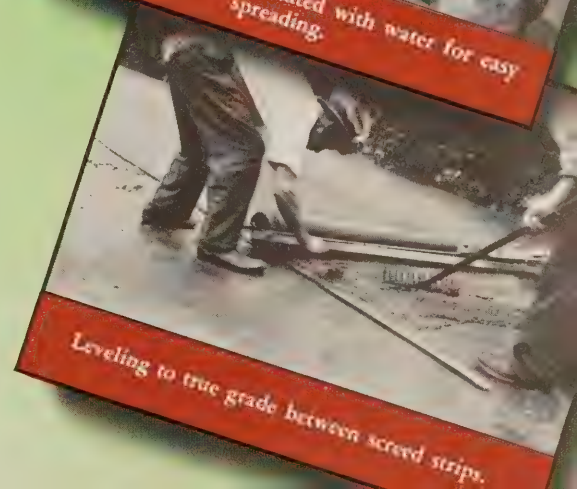
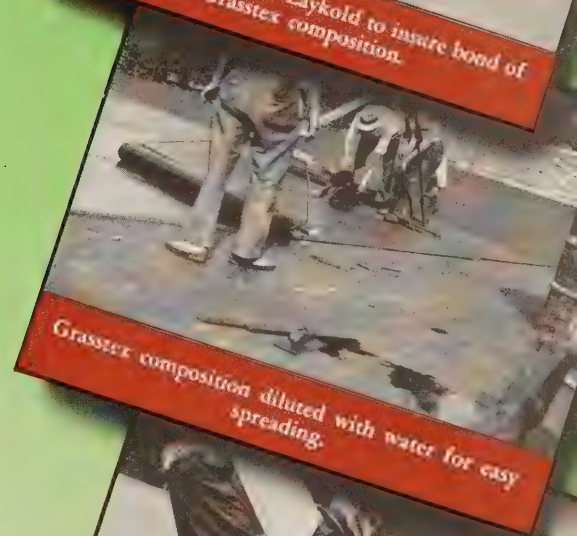
To determine the wear on tennis balls caused by the several court surfaces, new balls of one standard make were used, having an average weight of 55.9 grams. The balls were in play for forty minutes. On the Grasstex surface with no abrasive particles, the loss in weight averaged .17 gram. On Court B the loss averaged .41 gram. On Court C the loss averaged .26 gram.

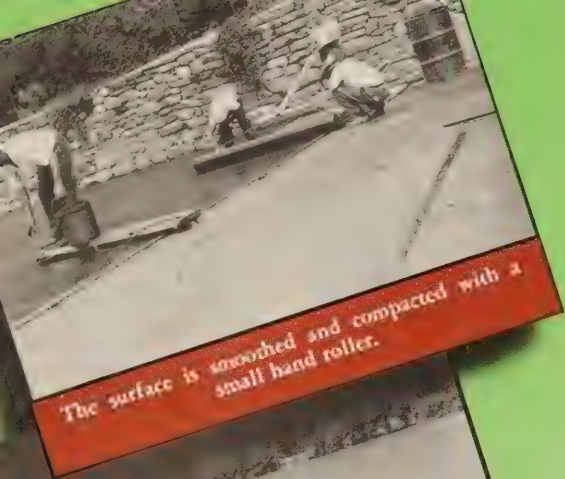


THE merit of Grasstex courts has been recognized by the United States Lawn Tennis Association. The courts at the Olympic-Lakeside Club, San Francisco, California, were officially approved for the 1937 Davis Cup Tie between the teams of Japan and the United States. The matches were played starting April 30, 1937. All members of both teams, players of high international standing, together with other high ranking players who participated in exhibition matches, expressed pleasure and satisfaction with the Grasstex surfaces. Grasstex is the only composition surface that has ever been thus approved for international competition.

Construction

THE construction of Grasstex courts should follow the sound practices recommended for construction of Laykold Courts, as outlined in bulletins and specifications of the American Bitumuls Company. The site should be well drained. Sub-Base and base courses should be of ample thickness, composed of good materials thoroughly compacted. A premixed leveling course of rock and Laykold Tennis Court Binder should be laid between screed strips and finished to exact grade. The Grasstex composition and Wear Coat surface dressing must be carefully applied under experienced supervision.





The surface is smoothed and compacted with a small hand roller.



The freshly laid surface dries uniformly.



The Grastex composition is compacted lightly after drying.

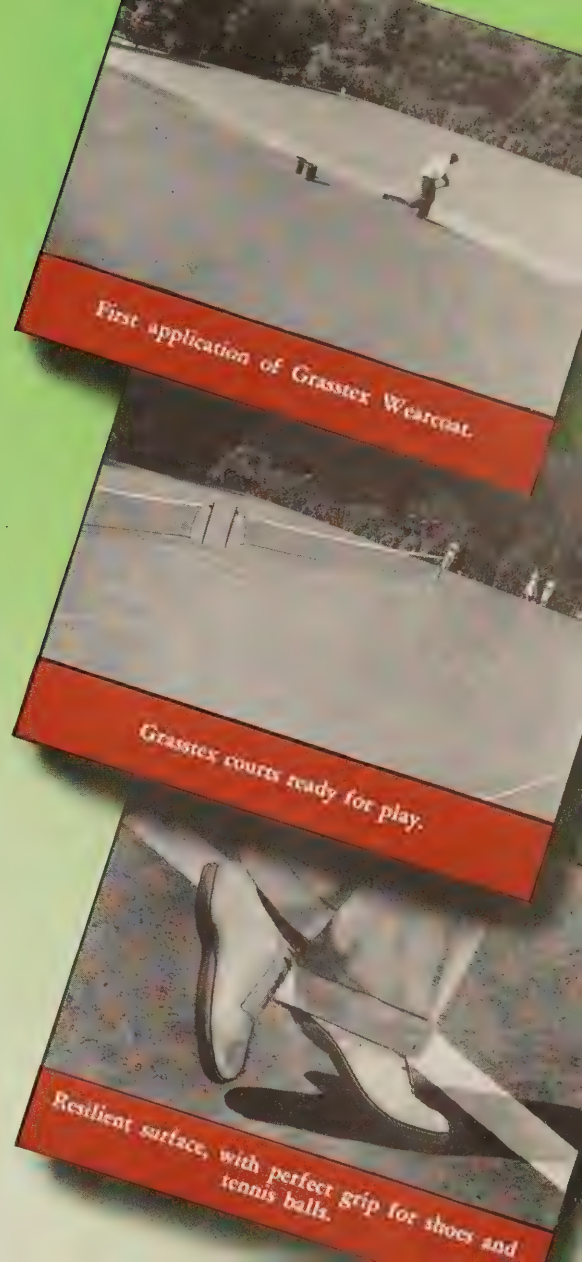
Hard courts which have sound foundation, may be surfaced with Grastex, by truing up the existing surface with a leveling course, upon which Grastex composition is spread.

Clay courts may be surfaced with Grastex by treating the materials of which they are composed with Bitumuls Stabilizer, adding coarse material for admixture if the nature of the existing material requires. On the base thus constructed a Laykold leveling course is placed, and surfaced with the Grastex composition.

Grastex composition and Wear Coat, and Laykold Tennis Court Binder are shipped in drums ready for use, from the several factories of the American Bitumuls Company. Laykold Tennis Court Binder is a cold liquid emulsified asphalt which is mixed with

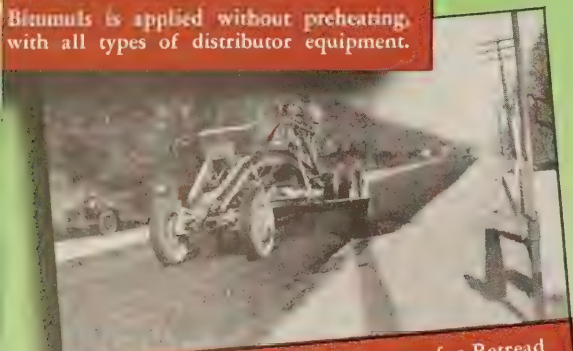
graded rock and sand for the leveling course. Grastex Wear Coat is a tough waterproof asphaltic compound made especially to resist wear. Placed on the surface in successive thin applications, its tough membrane waterproofs the Grastex course, and prevents scuffing. Renewal of this dressing in from three to five years, on areas which receive the hardest use, is normally anticipated.

Further information regarding Grastex and its use for surfacing tennis courts and other areas, is available through the District Offices of the American Bitumuls Company, the addresses of which are set forth in this booklet. Our sales engineers advise upon the details of construction, and furnish specifications and estimates of costs. Construction by experienced contractors is advised.

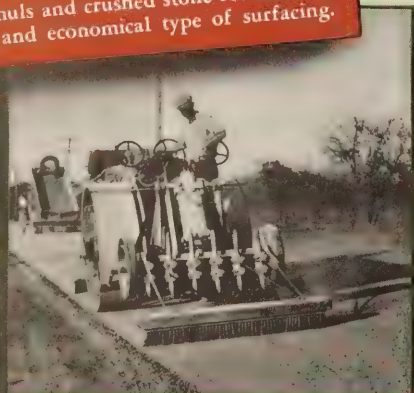




Bitumuls is applied without preheating, with all types of distributor equipment.



Mixing Bitumuls and crushed stone for Retread—a durable and economical type of surfacing.



A smooth texture is obtained by brooming and rolling the fine cover stone.

Other Products

THE American Bitumuls Company manufactures BITUMULS EMULSIFIED ASPHALT, used for pavement construction and repairs. By the Bitumuls process, asphaltic binders are rendered liquid and are used without heating.

Bitumuls Emulsified Asphalt remains fluid and homogeneous in storage, but when applied to rock or other surface, it sets and forms a uniform thin film of pure asphalt over every surface which it covers. After setting it cannot re-emulsify. Workmen quickly become skilled in use of Bitumuls Emulsified Asphalt, and obtain uniformly better results than with binders which are fluid only when hot.

Bitumuls Emulsified Asphalts are used for building penetration pavements, surface treatments, retreads, road mixes, and for preparing cold premixes. Bitumuls Stabilizer is used for treating clay bearing soils and aggregates, to make them resistant to absorption of water. Bitumuls Emulsified Asphalts are supplied in quick setting grades for use by penetration methods, and in retarded setting grades for use in mixes. Bulletins and specifications for the several grades of products are available upon request.

THE American Bitumuls Company manufactures LAYKOLD EMULSIFIED ASPHALT products for special industrial uses. Like Bitumuls Emulsified Asphalts, all Laykold products are handled at atmospheric temperatures. Each product has especial advantages in its field. Laykold Tennis Court Binder is used in building Laykold Tennis Courts, a well known asphalt composition type used for the past twelve years. The names of Laykold Emulsified Asphalt products are descriptive of the uses, and include:

Floor Mastic Binder	Tree Sealing Compound	Insulation Trowel Coat
Fibrous Roof Paint	Tennis Court Binder	Asbestos Trowel Coat
Fibrous Flashing	Waterproofing	Roof Treatment
Asbestos Paint	Floor Bond	Crack Filler
Wear Coat	Tile Set	Roof Paint
Primer		Plank Set

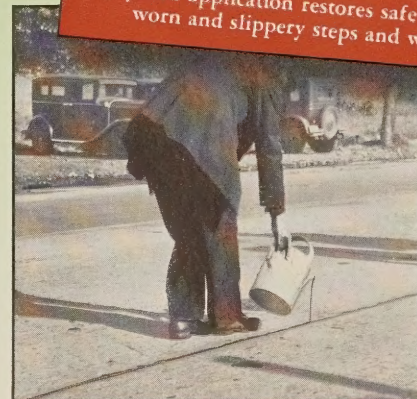
The names GRASSTEX, LAYKOLD and BITUMULS are registered trademarks of the American Bitumuls Company, and are used to designate its various emulsified asphalts and composition products.



Laykold Treesealing Compound protects tree wounds against rot and insects.



Laykold application restores safe foot grip to worn and slippery steps and walkways.



Laykold Crack Filler—indispensible for maintenance of rigid pavements.

K. M. BYRAM & SON.

9 WELLESLEY ROAD

MONTCLAIR, N. J.

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